



Material Safety Data Sheet

Page 1 of 4

Infosafe No. NU0GV Issue Date : August 2005 ISSUED by NUFARM

Product Name : **RAMROD Flowable Herbicide**

Classified as hazardous according to criteria of NOHSC

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

Product Name RAMROD Flowable Herbicide
Product Code 0300
Product Use For control of annual grasses and certain broadleaf weeds in sorghum and selected vegetable crops as per the Directions for Use table on the label.
Company Name NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)
Address 103-105 Pipe Road Laverton North
Victoria 3026 Australia
Emergency Tel. 24hr 1800 033 498
Telephone Number/Fax Tel: (03) 9282-1000 Fax: (03) 9282-1001
Product Type Group K Herbicide
Other Information This MSDS describes, to the best of our knowledge, the properties of the concentrated product. The physical properties and some of the assessments do not apply to the properties of the product once it has been diluted for application. Acute health effects of the diluted product are likely to be much less severe.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization Liquid

Ingredients	Name	CAS	Proportion
	Propachlor	1918-19-7	480 g/L
	Ethylene glycol	107-21-1	83 g/L
	Other Ingredients		Balance

3. HAZARDS IDENTIFICATION

Harmful if swallowed.
Irritating to skin.
May cause sensitization by skin contact.

Other Information Poisons Schedule S6

4. FIRST AID MEASURES

Inhalation Over-exposure by inhalation is improbable. Check for other causes of observed symptoms and seek medical advice.

Ingestion If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label or contact the Poisons Information Centre on 13 11 26 (Aust). Make every effort to prevent vomit from entering the lungs by careful placement of the patient.
The above first aid instructions are mandated by the Commonwealth Department of Health and Aged Care via the National Drugs and Poisons Schedule. These instructions are suitable for ingestion of spray solution and small amounts of concentrate; however, if SUBSTANTIAL AMOUNTS of the concentrate have been swallowed (more than about 15ml) AND if medical assistance is more than 30 minutes away, the induction of vomiting should be CONSIDERED, preferably based on MEDICAL ADVICE if a physician can be contacted by phone. All care must be taken to prevent vomit from being inhaled. Do not give anything by mouth to a semi-conscious or unconscious person.

Skin Wash affected areas thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
If irritation persists, seek medical advice.

Eye If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes.
Seek medical advice.

Infosafe No.	NU0GV	Issue Date : August 2005	ISSUED by NUFARM
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Advice to Doctor Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing Media Water fog, foam, carbon dioxide or dry chemical.

Specific Hazards Considered low risk due to water content, however upon evaporation of water the product is combustible.

Hazardous Combustion Products If involved in a fire, the dehydrated components may emit oxides of carbon, oxides of nitrogen and hydrogen chloride.

Protective Equipment Breathable air apparatus should be worn when fighting a fire in which this product is involved.

Other Information Hazchem code 2X .

6. ACCIDENTAL RELEASE MEASURES

Spills & Disposal Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite).
Collect spilled material and waste in sealable open-top type containers for disposal.
On-site disposal of concentrate is not acceptable.

Personal Protection For appropriate personal protective equipment (PPE), refer Section 8.
If product has dried out and the possibility of dust generation exists, wear a suitable respirator.

Environmental Precautions Prevent from entering drains, waterways or sewers.

7. HANDLING AND STORAGE

Storage Do not store for prolonged periods in direct sunlight.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards NOHSC has set the following exposure standard for ethylene glycol (vapour and mist) : TLV (TWA) 60 mg/m³, STEL 120 mg/m³.

Respiratory Protection Do not inhale spray mist.

Personal Protective Equipment When opening the container, preparing the spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and a washable hat, nitrile or elbow-length PVC gloves and face shield or goggles.

Eng. Controls Handle in well ventilated areas, generally natural ventilation is adequate.

Hygiene Measures After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.
After each day's use, wash contaminated clothing and safety equipment.

Requirements Concerning Special Training NSW regulations require that people who use pesticides in their job or business must have training in the application of the materials. By 1st September, 2005 all users must have received such training.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance White suspension.

Odour Odourless.

Solubility in Water Disperses in water.

Specific Gravity (H₂O=1) 1.11

pH Value ~6.4

Vapour Pressure 10 mPa (25°C, propachlor)

Partition co-efficient, n-octanol/water Kow Log P is 1.4 - 2.3

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Flammability Non combustibile material.

10. STABILITY AND REACTIVITY

Hazardous Polymerization Hazardous polymerisation is not possible.

Materials to Avoid Not compatible with iron and mild steel.
Avoid contact of the concentrate with strong acids and bases.

11. TOXICOLOGICAL INFORMATION

Inhalation Will cause irritation to mucous membranes.

Ingestion May cause irritation to mouth, throat and stomach.

Skin Will irritate the skin.
May cause pain, redness and a burning sensation.

Eye May irritate the eyes.
Possible symptoms include redness, swelling, tearing and pain.

Acute Toxicity - Oral LD50 (rat) 1191 mg/kg for a similar formulation

Acute Toxicity - Dermal LD50 (rat) >5000 mg/kg for a similar formulation

Acute Toxicity - Inhalation LC50 concentration not reached.

Eye Irritation Not an eye irritant.

Skin Irritation The product is a skin irritant.

Respiratory Irritation The product may be a mild respiratory irritant.

Other Information The Australian Acceptable Daily Intake (ADI) for propachlor for a human is 0.02 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 2 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing, 'ADI List', TGA, December 2004).

12. ECOLOGICAL INFORMATION

Known Harmful Effects on the Environment The product is a marine pollutant for sea transport.
Harmful to fish and other aquatic organisms.
Moderate toxicity to birdlife.

Other Precautions Do not contaminate dams, waterways or sewers with this product or the containers which have held this product.

Environ. Protection Spray drift should be avoided, read the label for more information.

Persistence / Degradability Half life in soil is typically 4 days.

Acute Toxicity - Fish The following is data for a similar product.
LC50 (96 hr) for rainbow trout is 0.42 mg/l.
LC50 (96 hr) for bluegill sunfish is 1.6 mg/l.

Acute Toxicity - Daphnia EC50 (48hr) is 13 mg/l.

Acute Toxicity - Other Organisms LD50 for bobwhite quail is 91 mg/kg

13. DISPOSAL CONSIDERATIONS

Product Disposal On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemCollect).



Material Safety Data Sheet

Page 4 of 4

Infosafe No. NU0GV Issue Date : August 2005 ISSUED by NUFARM

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Container Disposal Do not use this container for any other purpose.
Triple rinse containers, add rinsate to the spray tank, then offer the container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations.
drumMUSTER is the national program for the collection and recycling of empty, cleaned, non returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMuster symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program.
If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots.
Empty containers and product should not be burnt.

14. TRANSPORT INFORMATION

U.N. Number None Allocated
DG Class None Allocated
Hazchem Code None Allocated
Packing Group None Allocated
Storage and Transport Considered non dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.
UN Number (Sea Transport) 3082
IMO Class/Packing Group Class 9; Packing Group III
IMO Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains Propachlor)

15. REGULATORY INFORMATION

Risk Phrase R22 Harmful if swallowed.
R38 Irritating to skin.
R43 May cause sensitization by skin contact.
Safety Phrase S13 Keep away from food, drink and animal feeding stuffs.
S2 Keep out of reach of children.
S24 Avoid contact with skin.
S37 Wear suitable gloves.
S46 If swallowed, seek medical advice immediately and show this container or label.
Poisons Schedule S6
Packaging & Labelling POISON
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING
Hazard Category Harmful, Irritant
AICS (Australia) All of the components in this product are listed on the Australian Inventory of Chemical Substances.

16. OTHER INFORMATION

Contact Person/Point Normal Hours: Mr Volker Maier Phone: (03) 9282 1000
After Hours: Shift Supervisor Phone: 1800 033 498
Revisions Highlighted The MSDS was reviewed. Minor changes were made to the information. The MSDS is now issued in a 16 header format.
...End Of MSDS...